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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/587,493	06/02/2000	Hugh L. Brunk	60049	7276

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DIGIMARC CORPORATION  
9405 SW GEMINI DRIVE  
BEAVERTON, OR 97008

EXAMINER
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COLIN, CARL G

ART UNIT	PAPER NUMBER
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2136

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09/17/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

09/587,493

Applicant(s)

BRUNK, HUGH L.

Examiner

Carl Colin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/14/2007.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 8/14/2007 has been entered.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 8/14/2007 was filed after the mailing date of the Notice of Allowance on 5/14/2007. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

3. In response to communications filed on 8/14/2007, the following claims 1-20 are pending and presented for examination.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1 and 3-18** are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,477,276 to **Inoue et al.**

**As per claims 1 and 11, Inoue et al** discloses a method for reading a digital watermark in a media signal comprising: dividing sets of media samples (plurality of blocks) into groups (classes) (see column 8, lines 49-52) that meets the recitation of *assigning sets of media signal samples into classes*; **Inoue et al** discloses calculating mean and quantization value for each of the groups (see column 8, lines 53-59) that meets the recitation of *computing a statistical distribution of the classes*; and *using the statistical distribution to detect or read a watermark in the media signal* (see column 8, line 53-column 9, line 8).

**As per claim 3, Inoue et al** discloses the limitation of wherein the media signal is an image signal (see column 8, lines 33-43).

**As per claim 4, Inoue et al** discloses wherein the media signal samples are expressed in a frequency domain (see column 8, lines 49-52 and column 7, line 54 through column 8, line 7).

**As per claim 5, Inoue et al** discloses wherein the media signal samples are spatial frequency coefficients (see column 2, line 60 through column 3, line 7 and column 7, line 54 through column 8, line 7).

**As per claim 6, Inoue et al** discloses wherein the media signal samples are in a spatial or temporal domain (see column 8, lines 33-44; column 2, line 60 through column 3, line 7; and column 7, line 54 through column 8, line 7).

**As per claim 7, Inoue et al** discloses during extraction using a quantization value  $q_n$  as a figure of merit for detecting the embedded information that meets the recitation of assigning a figure of merit to a sample indicating a likelihood that the sample includes a recoverable portion of a watermark signal and using the figure of merit in a read operation (see column 44, line 41 through column 45, line 6).

**As per claim 8, Inoue et al** discloses during extraction using a quantization value  $q_n$  as a figure of merit for detecting the embedded information and judging whether the quantization value is even or odd that meets the recitation of wherein assigning a figure of merit includes assigning a weight to the sample indicating an extent to which the sample is likely to reflect valid watermark data (see column 44, line 41 through column 45, line 6).

**As per claim 9, Inoue et al** discloses during extraction of the watermark information (embedded information) using a quantization value  $q_n$  as a figure of merit for detecting the embedded information that meets the recitation of wherein using the statistical distribution includes: assigning a figure of merit to a sample indicating a likelihood that the sample includes a recoverable portion of a watermark signal; and using the figure of merit in a watermark decoding operation (see column 44, line 41 through column 45, line 6).

**As per claim 10, Inoue et al** discloses during extraction using a quantization value  $q_n$  as a figure of merit for detecting the embedded information and judging whether the quantization value is even or odd that meets the recitation of wherein assigning a figure of merit includes assigning a weight to the sample indicating an extent to which the sample is likely to reflect valid watermark data (see column 44, line 41 through column 45, line 6).

**As per claims 12 and 14, Inoue et al** discloses a method for reading a digital watermark in a media signal comprising: dividing transformed samples of the image (plurality of blocks) into groups (classes) using characteristics computed from the samples to group the samples into classes (see column 8, lines 34-52 and column 7, line 54 through column 8, line 20) that meets the recitation of *assigning transformed samples of the image into classes using characteristics computed from the samples to group the samples into classes*; **Inoue et al** discloses calculating mean and quantization value for each of the groups (see column 8, lines 53-59 and column 7, line 54 through column 8, line 20) that meets the recitation of *modeling a statistical distribution of the samples in each of the classes*; and *using the statistical model to decode a watermark from*

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*the samples* (see column 8, line 53-column 9, line 8 and column 7, line 54 through column 8, line 20).

**As per claim 13, Inoue et al** discloses wherein the characteristics comprise signal activity of the samples and the signal activity of the samples is evaluated and the samples are assigned to the classes based on signal activity (see column 46, lines 1-14).

**As per claims 15 and 18, Inoue et al** discloses a method for reading a digital watermark in a watermarked signal comprising: the digital extraction apparatus is for extracting the digital information embedded (watermarked information) by the embedding apparatus (column 55, lines 45-58); dividing samples (plurality of blocks) of the image containing embedded information i.e. watermarked signal into groups (classes) using characteristics computed from the samples to group the samples into classes (see column 8, lines 34-52 and column 7, line 54 through column 8, line 20) that meets the recitation of *assigning samples of the watermarked signal into classes using characteristics computed from the samples to group the samples into classes*; **Inoue et al** discloses calculating mean and quantization value for each of the groups (see column 8, lines 53-59 and column 7, line 54 through column 8, line 20) that meets the recitation of *computing a statistical distribution of the samples in each of the classes*; and *using the statistical distribution to decode a watermark from the watermarked signal* (see column 8, line 53-column 9, line 8 and column 7, line 54 through column 8, line 20).

**As per claim 16, Inoue et al** discloses wherein sets of samples are assigned to classes based on a signal characteristic of the samples in the sets (see column 8, lines 34-52 and column 7, line 54 through column 8, line 20).

**As per claim 17, Inoue et al** discloses wherein the signal characteristic is a measure of signal energy (see column 3, lines 30-34).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 2 and 19-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,477,276 to **Inoue et al**.

**Claim 2** recites the same inventive concept as claim 1 except for replacing image signal to audio signal. **Inoue et al** does not explicitly disclose an audio signal. Examiner takes official



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notice that it is very well known in the art of electronic watermarking that watermark information can be applied to audio as well as digital image data. It would have been obvious to one of ordinary skill in the art of watermarking at the time the invention was made to modify the method of **Inoue et al** of embedding and extracting watermark information in an image signal to extract embedded information in an audio signal for the purpose of protecting copyrighted material in audio materials as suggested by **Inoue et al** (column 1, lines 10-20).

As per claims 19-20, **Inoue et al** substantially discloses a method for estimating a watermark signal from a media signal suspecting of containing the watermark signal, the method comprising: the digital extraction apparatus is for extracting the digital information embedded (watermarked information) by the embedding apparatus (column 55, lines 45-58); dividing samples (plurality of blocks) of the image containing embedded information i.e. watermarked signal into groups (classes) using characteristics of the samples (see column 8, lines 34-52 and column 7, line 54 through column 8, line 20) that meets the recitation of *assigning samples of the watermarked signal into classes based on a signal characteristic of the samples*; **Inoue et al** discloses calculating mean and quantization value for each of the groups (see column 8, lines 53-59 and column 7, line 54 through column 8, line 20) that meets the recitation of *modeling distributions of the classes*; and *estimating the watermark signal based on the signal, the distributions of the classes and a distribution of the watermark signal* (see column 8, line 53-column 9, line 8 and column 7, line 54 through column 8, line 20). **Inoue et al** does not explicitly disclose the signal is a suspect signal. Examiner takes official notice that it is very well known in the art that watermark detection is being applied to suspect signal. Therefore, it

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would have been obvious to one of ordinary skill in the art of watermarking at the time the invention was made to use the signal disclosed by Inoue et al as a suspect signal because as suggested by **Inoue et al** the image to be protected is open to the public on a network on the Internet therefore the apparatus may recognized it as a suspect signal since it is not in a safe environment as well-known in the art.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as the prior art disclosed reading/detecting watermark in audio, image, suspect signal by dividing signal to classes. See PTO-form 892.

6.1 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl Colin whose telephone number is 571-272-3862. The examiner can normally be reached on Monday through Thursday, 8:00-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser G. Moazzami can be reached on 571-272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Carl Colin/

Patent Examiner

September 11, 2007